FACTSHEET

AGRICULTURAL ENGINEERING

SOILS

ORDER NO. 06-025

MARCH 2006

AGDEX 720/538

Ontario Ministry of Agriculture, Food and Rural Affairs

NUTRIENT MANAGEMENT ACT 2002

DISCUSSION OF TERMS UNDER THE NUTRIENT MANAGEMENT ACT, 2002

(Replaces OMAFRA Factsheet *Discussion of Terms Under the Nutrient Management Act, 2002*, Order No. 04-023)

S. Johnston

It is important for individuals affected by the Nutrient Management Act, 2002 (NMA), the Ontario Regulation 267/03 (the Regulation), as amended, and the associated protocols to clearly understand how the new legislation applies to their operations. In order to do this you must understand the terminology found in the legislation and regulation. Farmers will need to organize their operations into one or more farm units and determine the number of nutrient units (NU) their animals generate, the size of their operation and when the operation becomes subject to the requirements of the Regulation. The interpretation of any new regulation can be a daunting task. However, if you understand the key terms and definitions used in the NMA and Regulation you should be able to apply the Regulation and accompanying protocols to your operation.

THE FARM UNIT

A farm unit consists of farm structures and land necessary to manage an operation and typically include barns and associated storage facilities, outdoor confinement areas (OCA) and all lands where prescribed material is applied including land that is owned, leased or subject to nutrient application agreements. A single farm unit may be as simple as a single livestock operation or consist of one or more livestock operations. Distance is not a factor when determining the farm unit. As well there is no limit to the potential size of the farm unit.

The minimum size of a farm unit is a single deeded property where the operation on which material is generated is situated. Separately deeded properties with different livestock facilities may be combined to form a single farm unit or defined as separate farm units depending on the owner's needs and preferences. The farm unit is defined using the farm unit declaration forms supplied in Part 15 of the Nutrient Management Protocol. Form 15.1(a) is used when the Nutrient Management Strategy/Plan (NMS/P) is completed using the NMAN software while Form 15.1(b) is for those using the manual workbook.

Before defining the farm unit, an operator should consider the following points:

- the farm unit must comply with section 5 of the Regulation
- time and effort required to manage single or multiple farm units
- each declared farm unit will require a separate nutrient management strategy/plan
- the NMAN and MSTOR software may be used to prepare plans and strategies and can handle several livestock operations including multiple livestock types and management scenarios
- there is no limit to the number of animals declared in a farm unit
- it can be no smaller than a single deeded property where the nutrient is generated
- the farm unit may include all lands where prescribed materials are being applied to the land or provide for their transfer elsewhere

NUTRIENT UNITS

The nutrient unit (NU) was developed to ensure the same comparison (apples to apples) of nutrient values generated by different types of livestock operations. A common unit is required because different farm animals produce different quantities and qualities of manure. A NU is a defined as the amount of nutrients equivalent to a fertilizer replacement value of the lower of 43 kg of

nitrogen or 55 kg of phosphate. A NU is not the same as a livestock unit or an animal unit. Understanding the concept of nutrient units is important because it is used to determine when and how the Regulation applies to the farm unit.

Nutrient concentrations vary by species and management system. For example typical solid beef manure is 25% dry matter, 0.68% total nitrogen, 0.19% phosphorous and 0.53% potassium compared to poultry-broiler manure which usually is greater than 50% dry matter, 2.63% total nitrogen, 1.28% phosphorous and 1.40% potassium. Within a species, manure characteristic can also differ substantially due to dietary requirements, stage of development and type of management system. Due to the lack of bedding used in most layer operations typical poultry-layer manure is 20% dry matter compared to > 50% dry matter of poultry-broiler manure. Layer manure also has different nutrient characteristics, having about 1.31% total nitrogen, 0.60% phosphorous and 0.50% potassium.

The total number of NU that the farm animals on your farm unit will generate depends on the number of farm animals managed on the farm unit. *Table 1* provides some examples of the number of livestock by species required to generate 1 NU of manure over the course of a year. To calculate the amount of NUs generated on your farm unit take the number of animals and divide by the number of animals per NU in Table 1.

> *For example, it takes 0.7 large frame dairy cows to generate 1 NU so 100 Holstein dairy cows would equal 143 NUs (100 cows/0.7 NU/cow = 143 NU).*

Where there are more than one species of farm animal on a single farm unit the farmer must calculate the nutrient units generated by each species and add the resulting totals to get the number of NUs generated on that farm unit.

It is important to understand that the amount of NUs generated on your farm unit is:

- used to determine what farms require NMP/S
- help distinguish between high or low density permanent outdoor confinement areas (OCA)
- **not** used to determine Minimum Distance Separations II (MDS II)

TABLE 1. Number of Animals per Nutrient Unit

Type of Animal (based on highest design capacity of a new barn of the Farm Unit at one time)	# Animals per NU
Dairy cow (large-frame, 1200–1400 lbs, milking or dry, i.e., Holsteins)	0.7
Beef feeders (7–16 months)	3.0
Feeder Hogs (60–230 lbs)	6.0
Horses, medium-framed (with unweaned foal)	1
Chicken broiler breeder growers (females and males transferred out to layer barn)	300
Feeder lambs, 70–125 lb.	20
Milk-fed, or grain-fed veal calves	6

Note: for a more extensive list of livestock values refer to the *Nutrient Management Protocol*, Table 3.1.

NUTRIENTS

Nutrients and prescribed materials are words used frequently in nutrient management legislation. It is important to know the difference between the terms. Prescribed materials (*Table 2*) are agricultural and non-agricultural source materials. Examples include materials generated from the management of livestock or as a by-product of a treatment/process, including non-agricultural facilities such as wastewater treatment plants and pulp and paper mills. Prescribed materials are primarily organic in nature. Nutrients include not only prescribed materials, but also materials that are not prescribed materials such as commercial fertilizers and compost that meet Ministry of the Environment (MOE) guidelines.

106-05222/

TABLE 2. Prescribed Materials

Agricultural Source Materials	Non-Agricultural Source Materials
Any of the following treated or untreated materials, other than a commercial fertilizer or compost that meets the guidelines entitled *Interim Guidelines for the Production and Use of Aerobic Compost in Ontario* prepared by the Ministry of the Environment and dated November 2004, if they are capable of being applied to land as nutrients: 1. manure produced by farm animals, including associated bedding materials 2. runoff from farm-animal yards and manure storages 3. wash waters from agricultural operations that have not been mixed with human waste 4. organic materials produced by intermediate operations that process materials described in paragraph 1, 2 or 3	Any of the following materials, other than a commercial fertilizer or compost that meets the guidelines entitled Interim Guidelines for the Production and Use of Aerobic Compost in Ontario prepared by the Ministry of the Environment and dated November 2004, if they are intended to be applied to land as nutrients: 1. pulp and paper biosolids 2. sewage biosolids 3. any other material that is not from an agricultural source that is capable of being applied to land as a nutrient

Manure produced by livestock varies in nutrient value, form and quantity according to the type of farm animal that generated it and the management system used to raise livestock. It is these characteristics that the farmer must consider when selecting storage and application systems for the manure. The advantages of manure are that it provides a source of nutrients for crop production as a by-product of the livestock operation, and includes soil enhancing qualities not found in commercial fertilizers.

Biosolids are residual material (liquid or solid) generated from the treatment of municipal wastewater, from the production of pulp and paper, or from recycled paper facilities. Sewage biosolids are nutrient rich in nitrogen, phosphorus, organic matter and micronutrients (minerals and trace metals) and provide an alternative to commercial fertilizer. These residual materials are treated before land application to stabilize and reduce potential for pathogens and odours. Pulp and paper biosolids vary depending on the treatment process, ranging from primary materials that contain little but carbon rich organic materials, to mixed primary and secondary materials that contain significant portions of nitrogen, phosphorus and potassium. Any materials that are dealt with on farms that are phased in under the Regulation will be required to meet the quality standards set out in the Regulation.

Most, but not all prescribed materials (*Table 2*) are from organic sources. Organic fertilizers include wastes from living animals as well as byproducts, and tissues of once living plants, animals and organisms. All of the prescribed materials share the attribute that, as by-products of another process, their nutrient content or proportions cannot be easily changed, so they may not meet the exact nutrient requirements of a particular field on their own. Commercial fertilizers are manufactured to produce nutrients that are available for plant uptake and growth. Commercial fertilizers can be formulated or blended to meet the exact plant requirements, either on their own, or to compensate for the shortfall in a particular nutrient from an organic source. However the benefits of properly using organic fertilizers include:

- excellent source of organic matter
- improves soil structure, moisture retention and soil drainage
- reduces soil erosion
- avoids the cost and energy requirements of manufacturing commercial fertilizers
- reduced fertilizer costs

GENERATORS AND INTERMEDIATE OPERATORS

Generator means a person who owns or controls an operation in the course of which prescribed materials are generated, and includes an intermediate generator. Generators include generators of both agricultural and non-agricultural source materials. Non-agricultural operation means, an intermediate or broking operation, or any other operation, other than an agricultural operation, that involves the generation or management of prescribed materials or nutrients.

An intermediate operation means an operation carried out with prescribed materials generated in the course of another operation, resulting in the production of prescribed materials that have different characteristics from those of the materials in the form in which they were generated, such as nutrient content, density or volume but does not include an operation that mixes only manure produced by farm animals. (i.e. composting of manure, anaerobic digestion of manure that brings in off

farm material). For instance the material may have changed in terms of its nutrient content, density, composition or volume due to processing by composting or anaerobic digestion.

When do I need to do a Nutrient Management Strategy or a Plan?

The Regulation addresses the production, storage and utilization of materials containing nutrients that can be applied to land. Farms are required to ensure that prescribed materials generated in the course of the operation are managed in accordance with a nutrient management strategy. For some farm units nutrients applied to the land of the farm unit are managed in accordance with a nutrient management plan. These requirements kick in once the operations are "phased-in" as discussed below. The NMS requirement pertains directly to the generation of prescribed materials (including generation of non-agricultural source materials). A NMP is required when the prescribed materials are also land applied on the farm unit that is greater than 300 NU or within 100 metres of a municipal well. There is an additional requirement for a NMP when non-agricultural source material is applied unless the farm unit qualifies for the exemption outlined in Section 15 of the Regulation. Requirements for completion of NMS/P are set out in *Table 3.*

PHASE-IN

New and Expanding Operations

Subsection 11 of the Regulation determines when section 10 applies. The application of section 10 to an operation in effect phases that operation in and requires the preparation and approval of a nutrient management strategy.

Subsection 11(1) says:

> *"Section 10 applies to an agricultural operation that generates agricultural source materials if the person who owns or controls the land, on which the operation is carried out and that the current owner acquired under a single transfer as defined in the Land Registration Reform Act, has not carried out the operation on the land at any time before September 30, 2003 and submits an application, on or after that date and before December 31, 2005, for a building permit under the Building Code Act, 1992 with respect to any building or structure that is used to house farm animals and that is located or to be located on the land."*

Farms that have not managed livestock prior to September 30, 2003 and before December 31. 2005 and apply for a building permit to house farm animals on or after this date will be considered "new" operations in accordance with subsection 11(1). For example, a cash-crop farmer who decides to diversify the operation by raising livestock would be considered a new operation.

When considering the application of subsection 11(1) it is necessary to consider whether:

- there is an application for a building permit on or after September 30, 2003 and before December 31, 2005 for a structure used to house farm animals
- whether the farm unit will generate more than 5 NU worth of manure annually and
- whether the land is a separately deeded property that has not previously generated manure from an agricultural operation

TABLE 3. Timing of Regulation and Farm Animal Operations by Size

Number of NU	Timing of Regulation (Part 2 of the Regulation)
≤ 5	Not affected by requirement for an NMS
>5 and < 300	**New** operations subject to the NMS requirement with application for a building permit, or construction of an earthen storage - effective December 31, 2005 NMS must be approved by province per Part IV of the Regulation NMP required if any part of the farm unit is less than 100 m from a municipal well or if applying NASM (unless they qualify for the exemption for a NMP) Approvals as required by Part IV
≥ 300	**New and expanding** operations subject to the NMS requirement with application for a building permit or construction of an earthen storage effective December 31, 2005 NMS must be approved by province per Part IV of the Regulation – NMP kept on farm **Existing** operations affected as of July 1, 2005 The farm operation must be registered with the province per Part IV of the Regulation – NMS/NMP kept on farm
< 300	**Existing** operations not otherwise captured by 11(1)(2) or (3) do not require NMS or NMP, but may have nutrient management requirements under municipal by-laws.

Note: In all situations municipal by-laws need to be consulted.

Note that the Regulation generally does not apply to operations that generate five or fewer nutrient units of manure annually.

New operations generating greater than 5 NU will require a NMS.and possibly a NMP depending on the absence or presence of a municipal well..

Existing operations that generate 300 NU or more on or after July 1, 2005 must have a provincially registered farm operation with the NMS and NMP kept on the farm.

Subsection 11(3) reads:

> *"Section 10 applies to an agricultural operation that generates agricultural source materials if the number of farm animals on a farm unit on which the operation is carried out is sufficient at any time on or after July 1, 2005 to generate 300 or more nutrient units annually."*

Existing operations of 300 NUs or more should have complied with these requirements before July 1, 2005.

After December 31, 2005 any new or expanding agricultural operation that applies for a building permit for a structure to house farm animals or to store manure must have a provincially approved NMS. This also applies to those constructing an earthen storage or those in unorganized territories where building permits would not be required for these structures. Section 11(4) reads:

> *(4) Section 10 applies to an agricultural operation that generates agricultural source materials if, at any time on or after December 31, 2005, a person who owns or controls the land on which the operation is carried out,*
>
> *(a) submits an application for a building permit under the Building Code Act, 1992 in respect of any building or structure that is used to house farm animals or to store manure and that is located or to be located on the land;*
>
> *(b) constructs or causes to be constructed any building or structure that is used to house farm animals or to store manure and that is located or to be located on the land, if a building permit in respect of the building or structure would be required under the Building Code Act, 1992, but for the application of clause 2.4.1.1.(1) (b) of Ontario Regulation 403/97 (Building Code) made under that Act; or*
>
> *(c) constructs or causes to be constructed a permanent nutrient storage facility made of earth on the land.*

NUTRIENT MANAGEMENT STRATEGIES

The Nutrient Management Strategy (NMS) ensures that the prescribed materials generated by the operation are not greater than the materials distributed or utilized. The strategy also ensures that these materials are handled and stored using appropriate methods. The NMS describes the generation, storage, transfer and destination of the prescribed material. Permanent nutrient storage facilities and temporary field nutrient storage sites combined must accommodate at least 240 days of production, however the Regulation does provide a number of situations where 240 days of storage is not required. These include situations where a broker is used, where the confinement duration is reduced (i.e. outdoor confinement area) to justify a smaller storage or where the nutrient management plan allows for more frequent applications. Storage facilities must meet the siting and construction requirements set out by Part VIII of the Regulation.

A NMS is also required for non-agricultural operations that generate land-applied materials containing nutrients. Non-agricultural operations that require a NMS include generators of pulp and paper biosolids, sewage biosolids and other nutrient materials approved for land application. The need for generators of non-agricultural materials to complete a NMS depends on the phase-in dates in Part II of Regulation.

The NMAN nutrient management software can be used to develop a NMS, in addition it is also possible to use a workbook version of the NMAN computer program or other comparable software. The NMAN software will complete all the necessary calculations provided adequate and accurate data is supplied. One of the benefits of using the software is that 'red flags' appear to alert the users if the strategy does not meet the requirements of the Regulation. For example, if more manure is generated than the 240-day capacity of the identified storage facility, a red flag will appear. Yellow flags indicate situations where caution needs to be taken because the strategy is approaching the upper end of a critical limit. Another benefit of the software is that the input can be quickly changed and summarized. This option becomes very convenient when addressing red and yellow alerts. Well-developed contingency plans should address yellow flag alerts when they appear in the NMS summary.

A completed nutrient management strategy would be available for inspection and must include:

- farm unit information and identifier numbers
- description of the operation
- farm unit declaration form including location, roll number, generator or not, name

- agreements
- farm unit sketch
- list of prescribed materials generated manure/ nutrient information (type, analysis. etc.)
- analysis of nutrient content
- destinations of nutrients generated
- storage information — yearly amount, days of storage, amount remaining including storage sizing calculation
- contingency plan
- sign-off form

NUTRIENT MANAGEMENT PLANS

A Nutrient Management Plan (NMP) is required when nutrients are applied to the land described in the farm unit. The NMP provides the details of the land application of these materials. The NMP accounts for all nutrients, including commercial fertilizers and biosolids, being applied to the land. The plan optimizes a balance between nutrient application and crop uptake of these nutrients to minimize environmental impacts. This plan identifies nutrient application rates, required setbacks, cropping practices and locations, crop rotation sequences and yields as well as soil and topographic data relevant to the plan. The NMP ensures an adequate land base for the nutrients applied to the land. In addition to the information in the NMS, *Table 4* below explains what the NMP addresses.

TABLE 4. Components of an NMP

Field Information	Field Properties
	Field Sketches
	Soil Samples and Analysis
Crop Information	Crop Rotation and Yields
Nutrient Application Information	Commercial Fertilizer Application
	Application of Prescribed Materials
	Agronomic and Crop Removal Balance for Nitrogen
	Agronomic and Crop Removal Balance for Phosphorous
	Common Land Application Setbacks/Limits
	Demonstration of Adequate Land base

NMSs and NMPs cease to be in force at the earliest of the following times:

- the fifth anniversary of the day on which the strategy was approved or prepared under this Regulation, whichever is required or
- the occurrence of any of the events listed in section 22 or 26

Where a Director has approved a NMS for a non-agricultural operation under the Regulation and the approval is still in force, a person who owns or controls the operation has to submit a new NMS for the operation to a Director for approval at least 90 days before the fifth anniversary of the day on which a Director gave the original approval for the operation.

Where a NMS for an agricultural operation is in force under the Regulation, a person who owns or controls the operation has to prepare a new NMS for the operation at least 90 days before the fifth anniversary of the day on which the original NMS for the operation came into force. No Director approval is required unless required by section 29 of the Regulation. This term commonly appears in sections of the Regulation dealing with construction and siting of facilities and storage structures as well as locating outdoor confinement areas and temporary manure storages. A flow path is the course water takes as it moves from a site to a lower elevation. Flow paths are frequently not linear because they follow the lowest points of the land. For example a facility may be 140 ft from a surface water feature but the flow path distance can be longer, depending on surface drainage patterns and obstacles, which may divert flow between the facility and the surface water. Flow path distances are not fixed and can be managed, i.e. a berm can be situated between a facility and a stream to increase the flow path distance. Runoff would now encounter the berm then would have to flow along and around the berm increasing the flow path distance.

This would be triggered by an application for a building permit for a structure to house farm animals or to store manure and would also include the construction of an earthen storage.

NMP approvals are triggered by the spreading of non-agricultural source material and these approvals remain as a requirement at the time of renewal of a plan.

To simplify the NMS/P process it is recommended that you use OMAFRA's NMAN software to complete NMP calculations. OMAFRA Publication 818 *Nutrient Management Workbook* is also available for those who wish to do NMPs manually.

ACTS, REGULATIONS AND PROTOCOLS

Nutrient management planning in Ontario is specifically regulated by the NMA and its Regulation as well as the incorporated protocols. The NMA identifies the terms, limits, conditions and responsibilities of the various parties affected. It provides the framework from which regulations are developed. Regulations are subordinate legislation authorized by the NMA and specifically identify the activities and liable parties to

which the Regulations apply. They also define the responsibilities, rights and requirements of the people captured by the Regulation. The O. Reg. 267/03 made under the NMA is divided into 12 parts.

A protocol is a document that clarifies and provides greater detail about specific parts of the Regulation, and in the case of nutrient management, is developed within OMAFRA and MOE. Regulations incorporate the protocols and often make reference to each other. The Regulation includes a reference to the date of the protocol, so it is important to make sure that the most current version of the protocol is used in relation to the Regulation. The protocols generally address the technical aspects of nutrient management planning and provide specific procedures, and standards to follow. Policy, science and technological advancements guide the development of protocols. The Regulation incorporates two Protocols:

- Nutrient Management Protocol
- Sampling and Analysis Protocol

LAND APPLICATION

Surface waters are important sources of water and an important component of the hydrological cycle and groundwater recharge (Table 5). Surface waters are permanent sources of water that are easily polluted due to their locations in the landscape. Overland flow caused by precipitation eventually migrates to surface waters, which makes them susceptible to non-point source pollution.

Figure 1. Surface water – pond.

Figure 2. Non-surface water – flooded field.

"Vegetated buffer zone" means an area that:

(a) "has a width of at least three metres, adjacent to the top of the bank of surface water, measured away from the top of the bank of the surface water nearest the buffer zone and

(b) "is maintained under continuous vegetated cover, including perennial grasses, forbs or trees and perennial forage crops that can be harvested as hay or silage"

FIGURE 3. Stream with vegetated buffer.

These areas of land under permanent vegetative cover provide a barrier between surface water and disturbed sites. Vegetated buffer zones are often dominated by grasses, shrubs or trees and are important in managing water quality of surface waters. Utilizing buffer zones is a known conservation practice that maintains water quality. The functions of a well established and maintained buffer include reducing the rate of overland flow, stream bank stabilization, improved infiltration and soil structure, plant up take of nitrogen and phosphorus, and sediment filtering resulting from erosion.

"Flow path in relation to a facility, site, outdoor confinement area or temporary storage area, means a surface channel or depression that conducts liquids away from the facility, site or area."

This term commonly appears in sections of the Regulation dealing with construction and siting of facilities and storage structures as well as locating outdoor confinement areas and temporary manure storages. A flow path is the course that water takes as it moves from a site to a lower elevation. Flow paths are frequently not linear because they follow the lowest points of the land. For example a facility may be 140 ft from a surface water feature but the flow path distance can be longer, depending on surface drainage patterns and obstacles, which may divert flow between the facility and the surface water. Flow path distances are not fixed and can be managed, i.e. a berm can be situated between a facility and a stream to increase the flow path distance. Runoff would now encounter the berm then would have to flow along and around the berm increasing the flow path distance.

Maximum sustained slope is an important factor in predicting the runoff potential of a site. Slopes must be recorded because they are used to determine application rates, setbacks and under what conditions prescribed materials can be applied. Slope is the change in elevation over a horizontal distance. Maximum sustained slope is the change in elevation from the top to bottom of a slope divided by the length of the slope expressed as a percentage, where the slope has a minimum length of 10 m and the slope is towards surface water.

Slope=5/100=0.05 or 5%

An easy way to estimate land slope is the use of an instrument called a clinometer. It is sighted using your eye, either up or down the slope at an equal distance from the ground and the percentage is read directly off the scale. Without access to this instrument, a tape measure could be used to measure the drop in land over a horizontal distance. Depending on the degree of accuracy required other methods of determining slope on farms include:

- topographic maps
- transit
- topographic survey carried out by a licensed surveyor
- survey quality Global Positioning System (GPS)

Winter application of prescribed materials is more restrictive than other periods of the year because of the environmental risks involved. As soils freeze they become impermeable and the risk for run off increases, similar to saturated soils. Winter application is the application of prescribed material(s) during the period starting December 1 and ending March 31 or any other period when the soil is frozen or snow covered. Certain conditions apply to winter application depending on soil conditions.

For purposes of the Regulation, "frozen soil means soil that is consolidated by the presence of frozen moisture in the soil, in any layer with a minimum thickness of 5 cm, where the layer is located within the top 15 cm of the soil." This is because if this layer is within 15 cm of the surface, it is impermeable and there is an increased risk of run-off or overland flow. As well the frozen layer may not occur at the surface because sunny days may thaw the surface layer. Snow-covered soils are defined as having an average minimum depth of 5 cm snow cover over the soil.

Under some circumstances liquid and solid agricultural source materials as well as non-agricultural source materials can be winter applied but only within the parameters outlined in Part VI of the Regulation. The Regulation does not permit winter application of sewage biosolids. For more information the Regulation sections 47 and 48 provide the details of winter application.

OUTDOOR CONFINEMENT AREAS (OCA)

Outdoor feeding operations are generally categorized as grazing systems or outdoor confinement areas. Grazing or pasture systems occur when the livestock get more than 50% of their dry matter feed from pasture and Outdoor Confinement Areas (OCA) occur when livestock get more than 50% of their dry matter feed brought to their enclosure. OCAs can be classified as high-density permanent operations or low-density permanent operations (Table 6). The OCA is an enclosure used for livestock, deer, elk or game animals that must, according to the Regulation have the following seven factors present:

1. It has no roof, except as described in paragraph 3.
2. It is composed of fences, pens, corrals or similar structures.
3. It may contain a shelter to protect the animals from the wind or another shelter with a roof of an area of less than 20 m^2.
4. It has permanent or portable feeding or watering equipment.
5. The animals are fed or watered at the enclosure.
6. The animals may or may not have access to other buildings or structures for shelter.
7. Grazing and foraging provides less than 50% of dry matter intake.

TABLE 5. Definition of Surface Water

Surface Water (From subsection 2(1) of the Regulation)	**Non-Surface Water** (From subsection 2(2) of the Regulation)
"Surface water" means, subject to subsection (2): (a) a natural or artificial channel that carries water continuously throughout the year, or intermittently, and does not have established vegetation within the bed of the channel except vegetation dominated by plant communities that require or prefer the continuous presence of water or continuously saturated soil for their survival, (b) a lake, reservoir, pond or sinkhole, or (c) a wetland, such as a swamp, marsh, bog or fen, but not land that is being used for agricultural purposes that no longer exhibits wetland characteristics, if the wetland, (i) is seasonally or permanently covered by shallow water or has the water close to the surface of the ground, and (ii) has hydric soils and vegetation dominated by hydrophytic or water-tolerant plants"	"The following are not surface water for the purposes of this Regulation: 1. Grassed waterways. 2. Temporary channels for surface drainage, such as furrows or shallow channels that can be tilled and driven through. 3. Rock chutes and spillways. 4. Roadside ditches that do not contain a continuous or intermittent stream. 5. Temporarily ponded areas that are normally farmed 6 Dugout ponds. 7. Artificial bodies of water intended for the storage, treatment or recirculation of runoff from farm-animal yards, manure storage facilities and sites and outdoor confinement areas."

TABLE 6. Differences Between High and Low Density OCA's

High Density Permanent OCA's*	**Low Density Permanent OCA's***
• Animals have 4,800 hrs or 200 days and greater access per year, sufficient to generate 120 or more nutrients units per hectare annually (NU/ha) or • Animals have less than 4,800 hrs or 200 days access per year but the area is defined as a part of the farm unit where the animals generate 300 or more nutrient units annually and greater than 5 NU/ha/yr adjusted to an annualized basis.	• Animals have 4,800 hrs or 200 days and greater access per year and do not generate more than 120 nutrients units per hectare annually (NU/ha).

* Remember that farms are phased in according to section 11 of the Regulation. All operations that are phased-in and classified as an OCA are still subject to the rest of the Regulation and its requirements. OCA's that produce less than 5 NU/ha/yr are not subject to this part of the Regulation.

SOURCES AND REFERENCES

Nutrient Management Act, 2002 (NMA), Ontario Regulation 267/03 as a.nended

Nutrient Management Protocol, August 12, 2005

OMAFRA Factsheet, *What Should I Include in My Farm Unit,* Order No. 06-029

OMAFRA Factsheet *Grassed Waterways*, Order No. 94-039

Ontario Ministry of Agriculture, Food and Rural Affairs
www.OMAFRA.gov.on.ca

Ontario Ministry of the Environment
www.ene.gov.on.ca

Agriculture and Agri-Food Canada
www.agr.gc.ca/science/initiatives/manurenet/

Ontario Federation of Agriculture
www.ofa.on.ca

Ontario Pork
www.ontariopork.on.ca

Farm to Fork
www.farmtofork.ca

This Factsheet was written by **Sharon Johnston**, Resource Management Policy Analyst, OMAFRA.

FOR YOUR NOTES

FOR YOUR NOTES

Agricultural Information Contact Centre
1-877-424-1300
ag.info@omafra.gov.on.ca

www.omafra.gov.on.ca

POD
ISSN 1198-712X
Également disponible en français
(commande n° 06-026)